

MILLER CHEMICAL ENVIRONMENTAL STATUS REPORT

Miller Chemical, Hanover, Pennsylvania

Date: December 14, 2015

To: Kathy Horvath, PADEP
Richard Kaiser, PADEP
Brian Moore, PADEP
Glen Whisler
Barbara Carbaugh
Joan McAnall

Cc: Tony Hartlaub, Miller Chemical
Charlie Svec, Miller Chemical
Andrew Durrschmidt, Miller Chemical

During the time period from November 22, 2015 through December 5, 2015, the following environmental activities were conducted in relation to the Miller Chemical site:

Act 2 Activities:

- ☐ Miller obtained approval from Glen Whisler to proceed with the Act 2 Soil Sampling activities.
- ☐ Ramboll Environ marked out sample locations on the Whisler and Vulcan properties and initiated surface soil sampling activities on Whisler property.
- ☐ Group Hanover, Inc., the surveyor, returned to the site to aid in flagging certain of the proposed sample locations for the Act 2 work.
- ☐ Ramboll Environ participated in calls with the Penn State Agricultural Analytical Services Laboratory to discuss the evaluation of soil conditions for agricultural use.
- ☐ Ramboll Environ responded to inquiries regarding sampling progress and field conditions, and discussed progress with PADEP.

Environmental Monitoring:

- ☐ Ramboll Environ conducted weekly stream sampling on December 3, 2015. Recent stream sampling results, from November 19, are attached to this status report.
- ☐ Ramboll Environ continued to maintain and monitor remote in-stream monitors in Slagle's Run.
- ☐ Ramboll Environ continued to collect rainfall data via a remote weather monitoring station at the site. Rainfall data for the Hanover rain gauge are included in the tabular summary of surface water sample results. Precipitation recorded at the site (at least 0.1 inch) during the past 2 weeks includes: 11/30, 20:00 Hrs– 0.1 inches over 7.75 hours; 12/1 09:00 Hrs – 0.51 inches over 6.5 hours; 12/2, 07:15 Hrs – 0.27 inches over 10 hours.
- ☐ Ramboll Environ submitted a memorandum to PADEP on December 1, 2015 requesting approval of a modified schedule for surface water sampling. The proposed, revised schedule was approved on December 10, 2015.

Permits and Authorizations:

- ☐ No new permitting/authorization activities were conducted.

Off-Site Activities

- ☐ Off-site restoration activities on the Whisler property were initiated on November 23, 2015.
- ☐ Ramboll Environ participated in a phone conference with representatives of USACE and PADEP to discuss the dry creek restoration activities. A memorandum summarizing the conversation with USACE and PADEP was subsequently prepared and distributed to USACE and PADEP, with copies to Miller Chemical, Adams County, and Mr. Whisler.

On-Site Activities:

- ☐ Miller Chemical continues to manage soils excavated as part of the on-site re-construction effort via disposal at an off-site facility. Ten truckloads of soil were disposed at the Modern Landfill during the reporting period.

Upcoming Activities:

- ☐ Preliminary off-site restoration activities will continue during the week of December 7, 2015. .
- ☐ Act 2 soil sampling on the Whisler and Vulcan Materials properties will be conducted during the week of December 7, 2015 and, as needed, during the week of December 14, 2015.
- ☐ Receipt of analytical data and preparation of project database.
- ☐ The next surface water sampling event will be conducted in early January.
- ☐ Ramboll Environ will participate in an on-site meeting with USACE and PADEP on Wednesday, December 9 to review the dry creek restoration activities.

Recent Surface Water Sampling Results (DRAFT VERSION reflecting data received to date - may be revised or updated)				Creek Pit	Creek Pit	Slagle upstream	Slagle upstream	Slagle downstream 2	Slagle downstream 2	Hanover Intake	Hanover Intake	South Branch upstream	South Branch upstream	South Branch downstream	South Branch downstream	NOMA Intake	NOMA Intake
				11/19	11/19	11/19	11/19	11/19	11/19	11/19	11/19	11/19	11/19	11/19	11/19	11/19	11/19
Analyte	MCL (ug/L)	Lowest Benchmark** (ug/L)	Stormwater Benchmark (ug/L)	Total Metals	Dissolved Metals	Total Metals	Dissolved Metals	Total Metals	Dissolved Metals	Total Metals	Dissolved Metals	Total Metals	Dissolved Metals	Total Metals	Dissolved Metals	Total Metals	Dissolved Metals
Aluminum	200	87	-	69	ND	62	ND	51	ND	265	58	ND	ND	82	ND	70	ND
Antimony	6	5.6	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	10	0.02	850	1.3	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium	2000	4	-	26	25	41	43	32	39	43.5	48	30	36	37	38	39	41
Beryllium	4	0.66	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	-	1.6	-	110	100	15	17	18	18	30	31	ND	10	46	45	31	31
Cadmium	5	0.25	34.5	2.4	2.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Calcium	-	116000	-	62000	-	66000	-	59000	-	63000	-	41000	-	51000	-	54000	-
Chromium	100	85	-	ND	ND	0.65	ND	0.56	ND	0.65	ND	5.1	5.3	ND	ND	ND	ND
Cobalt	-	19	1650	140	150	ND	ND	2.2	2.8	1.15	0.94	ND	ND	ND	ND	0.64	0.6
Copper	1000	9	1000	36	34	1.9	1.3	2.3	2	2.35	2.1	0.53	0.5	1.2	1	1.6	1.2
Iron	300	300	118000	360	150	100	ND	99	ND	535	75.5	110	ND	180	ND	150	ND
Lead	5	2.5	450	7.6	7	ND	ND	ND	ND	0.9	ND	ND	ND	ND	ND	ND	ND
Magnesium	-	82000	-	9700	-	9200	-	7700	-	14000	-	7800	-	8900	-	12000	-
Manganese	50	50	87500	170	160	17	14	26	25	32	11.5	16	16	25	20	26	22
Mercury	2	0.026	-	ND	ND	ND	ND	ND	ND	ND	ND to 0.11	ND	0.12	ND	0.11	ND	ND
Molybdenum	-	73	-	1.4	1.3	ND	0.51	ND	0.59	0.71	0.845	2.1	2.5	ND	ND	0.57	0.63
Nickel	-	52	6900	98	95	ND	ND	1.7	2	1.25	0.995	ND	ND	0.52	ND	0.77	0.76
Potassium	-	53000	-	6000	6800	2000	2200	1800	2200	4700	6150	8100	9200	10000	12000	5900	7100
Selenium	50	1	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	100	3.2	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sodium	-	680000	-	15000	17000	28000	33000	24000	29000	19500	23500	12000	14000	30000	33000	22000	27000
Thallium	2	0.24	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	5000	120	7900	76	74	25	17	24	16	15.5	11.5	12	ND	17	17	18	14
Sulfate	250000	250000	-	28000		15000		14000		27000		21000		22000		25000	
Chloride	250000	230000	-	27000		67000		60000		34000		24000		40000		36000	
Phosphorus, Total (as P)	-	-	-	72		ND		ND		ND to 56		ND		ND		ND	
Ortho-Phosphate (as P)	-	-	-	ND		ND		ND		ND		ND		ND		ND	
Nitrogen, Ammonia (as N)	-	19	50500	ND		ND		ND		ND		ND		ND		ND	
Nitrite (as N)	1000	20	-	ND		ND		ND		ND		ND		ND		ND	
Nitrate (as N)	10000	10000	-	ND		1900		1500		2650		3100		2700		2700	
Nitrogen, Nitrate-Nitrite	10000	10000	-	-		-		-		-		-		-		-	
Nitrogen, Total Kjeldahl	-	-	-	ND		ND		ND		ND		ND		ND		1300	
Total Organic Carbon	-	-	-	6500		3800		4700		1350		2400		3100		2200	
Alkalinity, Total (CaCO3)	-	-	-	140000		140000		130000		165000		81000		130000		120000	
Chemical Oxygen Demand	-	-	-	ND		ND		ND		ND		ND		ND		ND	
Total Dissolved Solids	-	-	21645479	-		-		-		-		-		-		-	
Total Organic Halides (TOX)	-	-	-	9.3		ND		ND		ND		ND		23.8		12.9	
Temperature (°C)	-	-	-	14.51		15.03		15.24		13.82		13.32		13.44		13.1	
pH (Std units)	6.5	6.5	-	8.03		8.16		8.36		8.17		7.97		7.61		6.99	
ORP (mV)	-	-	-	165		162		159		169		174		185		215	
Conductivity (mS/cm)	-	-	-	0.425		0.484		0.384		0.426		0.298		0.414		0.418	
Turbidity (NTU)	-	-	-	0		0		0		20.5		0		0		0	
DO (mg/L)	-	-	-	10.4		11.66		-		13.05		11.44		10.14		12.1	
Total Hardness (Mg+Ca as CaCO3)	-	-	-	190000		200000		180000		210000		130000		160000		180000	
Daily Rainfall Hanover Gage (in)				0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11

1) No results exceeded the stormwater benchmarks developed using PADEP's PENTOX model.

2) ""-"" means not sampled or not yet received; "ND" means not detected

** Benchmarks include PADEP ambient water quality and human health criteria for surface water, USEPA Region 3 freshwater benchmarks for ecological risk, and drinking water MCLs.